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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,392

06/24/2003

Jefferson Liu

1981034

3075

7590

08/10/2004

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EXAMINER

VORTMAN, ANATOLY

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/603,392	<b>Applicant(s)</b> LIU, JEFFERSON	
	<b>Examiner</b> Anatoly Vortman	<b>Art Unit</b> 2835	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: the specification appears to be a literal translation from a foreign document and contains numerous minor errors pertained to the clarity of the language and to the grammar. For example, in line 20 of page 2, the plural “s” should be deleted in “tubes”, since “at least one” tube is referred to, not a plurality. Furthermore, plural “s” should be added to “temperature” in line 5 of page 4, since two temperatures (of hot end and of cold end) are referred to. Furthermore, “is” in line 8 of page 7 should be replaced with “are”, since plurality of the temperatures are referred to.

Similar and others errors are present on numerous occasions throughout the specification.

The aforementioned are only the examples. The entire specification should be carefully revised in order to correct similar and others informalities pertained to the grammar and clarity.

### *Claim Objections*

2. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. All of the limitations of claim 5 have been previously recited in the last two lines of parent claim 1.

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3. Claims 1-7 are objected to because of the following informalities: the claims appear to be a literal translation from a foreign document and contain numerous minor errors pertained to the clarity of the language and to the grammar. For example, in line 9 of claim 1, the plural “s” should be deleted in “tubes”, since “at least one” tube is referred to, not a plurality. Similar errors are present on numerous occasions throughout the claims. Also, “the” is redundantly used before “said” on numerous occasions throughout the claims. For example, in lines 14 and 15 of claim 1: “the said trenches” and “the said base”.

The aforementioned are only the examples. All claims should be carefully revised in order to correct similar and others informalities pertained to the grammar and clarity.

#### ***Allowable Subject Matter***

4. The subject matter of claims 1-7 is believed to be patentable over the cited prior art. The claims will be allowable upon correction of the informalities as stated in paragraphs 2 and 3 above.

5. The following is an Examiner’s statement of reasons for indicating of allowable subject matter:

The allowability resides in the overall structure of the device as recited in sole independent claim 1, and at least in part, because claim recites: “a plurality of heatsinks which are overlapped, but can be mechanically separated with each other and are discontinuous in contacting interface” and “at least one heat convection super conductive tube containing high

temperature super conductor composite". The aforementioned limitations in combination with all remaining limitations of claim 1 are believed to render said claim 1 and all claims dependent thereon patentable over the art of record.

The closest reference to the present invention is believed to be US/6,189,601 to Goodman et al., disclosed (Fig. 10,11) a one-piece heatsink module (210) comprising a plurality of integrally formed separate portions, a plurality of U-shaped heat conducting tubes (heat pipes) (214, 216, 218, and 220) positioned in the trenches formed in the bases of said separate portions of said heatsink module (210), but did not disclose a plurality of heatsinks which are overlapped, but can be mechanically separated with each other and are discontinuous in contacting interface and at least one heat convection super conductive tube containing high temperature superconductor composite, as required by independent claim 1 of the instant application.

The following relevant references have been also cited by the Examiner:  
US/2003/0173061, 2003/0182799, 2003/0183373, 2004/0047126, 3739234, 4040478, 4724901, 5409055, 5699853, 5760333, 5925929, 5959837, 6125035, 6263957, 6352104, 6359780, 6394175, 6651734, 6717811, 6717813, D487885, and JP/4-188861 disclosed heat-sink / heat-pipe combinations for cooling.

None of the cited references either taken alone or in combination are believed to render the present invention unpatentable as claimed.

### ***Conclusion***

6. This application is in condition for allowance except for the formal matters as stated in paragraphs 1 through 3 above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

The Applicant is hereby reminded that since present Office Action is in accordance with *Ex parte Quayle*, no amendments affecting the scope of the claims are allowed. Only amendments to correct minor informalities in the claims as stated in paragraphs 2 and 3 above should be made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 571-272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV

A handwritten signature in black ink, appearing to read "A. Vortman", followed by a horizontal line.

Anatoly Vortman  
Primary Examiner  
Art Unit 2835